

# EXHIBIT 9



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Keith Leighton      Examiner: Larkin, R.  
 Serial No. 08/727,789      Art Unit: 1301  
 Filed: 10/07/96      Date: January 8, 1998

Title: RADIO FREQUENCY IDENTIFICATION CARD AND HOT LAMINATION  
 PROCESS FOR THE MANUFACTURE OF RADIO FREQUENCY  
 IDENTIFICATION CARDS

Commissioner of Patents and Trademarks  
 Washington, D.C. 20231

## AMENDMENT

Dear Sir:

In response to the Patent and Trademark Office Action dated September 8, 1997, please  
 amend the above-identified application as follows:

In the claims:

Please delete the following claims: 6, 9, 10, and 19.

Please amend the following claims:

1. (Amended) A [hot lamination] process for incorporating at least one electronic element in the  
 manufacture of a plastic card, [said process] comprising the steps of:

(a) providing first and second plastic core sheets;

(b) positioning said at least one electronic element in the direction of a non-electronic  
 carrier directly between said first and second plastic core sheets to form a [layered] core, said  
 plastic core sheets defining a pair of inner and outer surfaces of said core;

(c) positioning said core in a lamination apparatus, and subjecting said core to a heat and  
 pressure cycle, said heat and pressure cycle comprising the steps of:

(i) heating said core [in said lamination] for a first period of time;

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(ii) [thereafter] applying [here] a first pressure to said core for a second period of time such that said at least one electronic element is encapsulated [in] by said core[.];

(iii) [and thereafter] cooling said core [in cooperation with laminator run] while applying a second pressure [being applied] to said core [said core including an upper and lower surface];

(d) [printing on] coating at least one of said [upper and lower] outer surfaces of said core [such that] with a layer of ink [is applied to said at least one upper and lower surface of said core]; and

(e) [positioning said core in a laminator apparatus with a layer of overlaminate film on at least one of said upper and lower surfaces of said core and laminating said] applying a layer of overlaminate film to at least one of said outer surfaces of said core [in said laminator to thereby form a sheet of plastic card stock; and,

(f) cutting at least one card from said sheet of plastic card stock].

2. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said [step (e) of positioning said core in a] laminator apparatus [is carried out by positioning said core between] has first and second laminating plates, at least one of said first and second laminating plates having a matte finish [to provide at least one of said upper and lower core surfaces with a corresponding] for creating a textured surface on at least one of said outer surfaces of said core.

3. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 2, wherein each of said first and second laminating plates [includes] has a matte finish [to provide both of said upper and lower surfaces of said core with a correspondingly] for creating said textured surface on both of said outer surfaces of said core.

4. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said first and second plastic core

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sheets are made from a material selected from the group consisting of polyvinyl chloride, polyester, and acrylonitrile-butadiene-styrene, [wherein] each of said sheets [has] having a thickness in the range of 0.007 [inches] to 0.024 [inches] inch.

5. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 4, wherein said first and second plastic core sheets have a thickness of approximately 0.0125 inch [inches].

6. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said step (c3) is carried out with a run and second pressure [that] is greater than (the run) said first pressure [utilized in step (c2)].

7. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein (the laminator) said second pressure [utilized in step (c5)] is at least approximately 25% greater than (the run) said first pressure [utilized in step (c4)].

8. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim (6) 1, wherein said (step (c3) is carried out by heating said core is heated in step (c2)) to a temperature in the range of (300) 275°F to (370) 400°F and said first period of time is (8s) at least five (5) [5 to 10] minutes.

9. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim (11) 1, wherein said (step (c4) is carried out by increasing said laminator run) first pressure (to a pressure) is approximately (in the range of 700 p.s.i. to) 1000 p.s.i. and said second period of time is (2s) at least 10 minutes.

10. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said step (d) is carried out

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utilizing a printing press.

11  
14. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said step (f) is carried out utilizing a coating technique (techniques) selected from the group consisting of silk screen printing, offset printing, letterpress printing, screen printing, roller coating, spray printing, and film-printing.

15  
15. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said step (e) is carried out by positioning said core between first and second sheets of overlaminate film such that a layer of overlaminate film is laminated to both said upper and lower surfaces of said core; of applying a layer of overlaminate film comprising the further steps of:

(a) positioning an overlaminate film on at least one ink coated surface of said core;

(b) subjecting said core to a second heat and pressure cycle comprising the steps of:

(i) heating said core to a temperature between approximately 175°F to 180°F for approximately 10 to 25 minutes;

(ii) applying approximately 1000 p.s.i. pressure to said core; and

(iii) cooling said core to a temperature in the range of approximately 80°F to 65°F for approximately 10 to 25 minutes.

16  
16. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said at least one electronic element is a micro-chip and an associated wire antenna.

17  
17. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said at least one electronic element is a micro-chip and an associated circuit board antenna.

18  
18. (Amended) [A hot lamination] The process for incorporating at least one electronic element

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<sup>3</sup>  
 in the manufacture of a plastic card, as recited in claim 1, wherein said at least one electronic element is a read/write integrated chip and an associated antenna.

<sup>16</sup>  
 12. Kindly add the following new claim:

<sup>16</sup>  
 12. A hot lamination process for the manufacture of plastic cards, said process comprising the steps of:

- (a) providing first and second plastic core sheets;  
 (b) positioning at least one electronic element in the space of a non-electronic carrier directly between said first and second plastic core sheets to form a layered core;  
 (c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure cycle, said heat and pressure cycle comprising the steps of:

<sup>16</sup>  
 (i) heating said core in said laminator, in the presence of a minimal first vacuum pressure, to a temperature which causes controlled flow of said plastic which makes up said first and second plastic core sheets;

(ii) applying a second pressure uniformly across said core for reconfiguring said at least one electronic element within said controlled flow plastic;

(iii) subsequently cooling said core in conjunction with the constant application of a third pressure uniformly across said core, said core including said upper and lower surfaces;

(d) printing on at least one of said upper and lower surfaces of said core such that a layer of ink is applied to at least a portion of said at least one upper and lower surface of said core.

<sup>16</sup>  
 13. The method as recited in claim 12 wherein said first and second core layers are devoid of any appreciable contents.

#### REMARKS

The Examiner has rejected each of the pending claims, 1-19, under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,458,024 ("the '024 patent") to Hagkrit-Tobani. This rejection is respectfully traversed.

From the Examiner's rejection, it is apparent that the Examiner claims to have found each

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of the elements of applicant's claimed invention anticipated by the '024 patent with the exception of the printing step, which the Examiner finds obvious under section 103(a). Applicant maintains that the '024 patent does not track the process of the present application even in the absence of the printing step.

The '024 patent claims a lamination process for making an electronic card which protects the electronic element of the card by first placing it in a recess formed within a card layer so as to avoid damage to the electronic element from localized pressure applied in the lamination process. The patent then requires that a "buffer zone" be present within the recess. Even the broadest of claims of the '024 patent require a recess and a buffer zone, for not protecting the electronic element. These are required by the '024 invention in order to enable the card assembly to be subjected to a full laminating process.

No such protective elements are defined or necessary to the invention of the present application. Further, the invention taught by the '024 patent requires that the electronic element also be placed in a protective carrier disk (6), which is subsequently located within the recess.

The controlled use of a heat and pressure cycle of the present invention eliminates the requirement of both a protective carrier disk for the electronic element and/or a recess or other buffer zone formed in one or more of the card layers for carrying and protecting the electronic element. The process of the present invention allows the electronics-containing core to be subjected to the full laminating pressure without use of a recess in a card layer. Unlike anything shown in the prior art, the electronic unit is placed directly between two (2) plastic sheets. Admittedly, the '024 patent does make reference to card forming processes which vary pressure with temperature. '024 Patent, col.4, ln. 30-46. However, there is nothing in the '024 patent which suggests the heat and pressure cycle of the present invention. The '024 patent merely discusses the variation of pressure with temperature, it does not suggest a sequence of steps or the duration of steps which might be used to encapsulate an electronic element by a plastic card. The '024 patent does not discuss a cooling step, nor does it propose a solution to the relative problems to be applied in the steps of the cycle.

The Examiner obviously notes that it is well within the purview of one of ordinary skill in the art to vary temperature with the type of material being laminated. However, the present invention involves more than controlling pressure as a function of temperature; the present

A

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invention claims a coordinated heat and pressure cycle which uses multiple temperatures, pressures and time periods for a single material. The dependent claims include limitations on the ratio of pressures to be applied at various stages of the process as well as specific temperature ranges and time periods for each step. Claim 15 includes a further heat and pressure cycle to be used in the crystallization step, a step which doesn't involve protecting the electronic element.

The amendments made to the claims have not been made to avoid the 103(a) rejection. It is believed that the claims as originally submitted are nonobvious over the '024 patent. The amendments were made to clarify claim language and to insure consistent language throughout both the specification and the claims.

It is believed that this application as amended is in condition for allowance. Such action is respectfully requested.

Respectfully submitted,  
OLEHAM & OLDHAM CO., LPA



Mark A. Watkins, Esq.  
Registration No. 33, 813

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Attorney Docket No. 6014-1



**EXHIBIT 10 IS BEING FILED UNDER SEAL  
PURSUANT TO THE PROTECTIVE ORDER  
ENTERED IN THIS CASE ON AUGUST 20, 2004  
BECAUSE IT CONTAINS CONFIDENTIAL INFORMATION  
DESIGNATED AS "TRIAL COUNSEL'S EYES ONLY"**

# **EXHIBIT 11**

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF NEW YORK

LEIGHTON TECHNOLOGIES, LLC, )

plaintiff, )

vs. ) Case No.

) 04 Civ. 02496 (CM)

ORBITRUE CARD SYSTEMS, S.A. )

and ORBITRUE CARD SYSTEMS )

OF AMERICA CORP., )

Defendants. )

(Volume III - pages 522 through 675)

Continued videotaped deposition of  
KEITH LEIGHTON, a witness herein, called by the  
defendants as if upon cross-examination, and  
taken before David J. Collier, RPE, Notary  
Public within and for the State of Ohio,  
pursuant to Notice of Deposition and pursuant to  
the further stipulations of counsel herein  
contained, on Monday, the 23rd day of October,  
2006 at 8:02 a.m., at the offices of Tackla &  
Associates, 1020 Ohio Savings Plaza, City of  
Cleveland, County of Cuyahoga and the State of  
Ohio.

Tackla & Associates

d:\0475-dm-4755-231-00001010021

1 that. What I'm asking is --

2 A In prior art.

3 Q -- in the prior art, did you ever see any  
4 protective covering on any electronic elements?

5 A In the prior art reference, I believe they  
6 used the 024 patent.

7 Q Okay. And what's your memory of what was  
8 in the 024 patent as a protective --

9 A That had a electronic carrier in it.

10 Q Okay. And your invention was different  
11 than that. You didn't need a carrier.

12 A No.

13 Q Because the process steps that you used  
14 would allow the chip to be encapsulated without  
15 damage; is that right?

16 A Correct.

17 Q And you didn't add any other layers in  
18 between the core sheets in which the electronic  
19 element was directly placed because it was  
20 unnecessary in your process?

21 A That's correct.

22 Q You didn't put any adhesive in there, for  
23 example?

24 A No.

25 Q You didn't put a life saver around the chip

1 to protect it?

2 A No.

3 Q You didn't cut out a hole or recess to  
4 protect it?

5 A No.

6 Q You didn't need any of that?

7 A No.

8 Q And the -- and the people that you spoke  
9 with prior to when you developed Leighton  
10 Technologies, did they ever tell you why they  
11 didn't want to take a license under your  
12 patents, other than telling you no?

13 A No.

14 Q Did they ever say anything specific about  
15 the patents or the prior art or your process?

16 A Motorola was going to take a license and  
17 they were talking with my attorney, Mark Watkins  
18 at the time, and then they finally -- they were  
19 planning a meeting, and then they finally sent a  
20 letter stating that they exited the business.

21 MR. DeFRANCO: Okay. Why don't --  
22 why don't we just take a couple minute break.  
23 I'm going to try to go through some documents  
24 and eliminate the need to --

25 MR. GUTKIN: Okay.

# **EXHIBIT 12**

529b1a1b

1 UNITED STATES DISTRICT COURT  
2 SOUTHERN DISTRICT OF NEW YORK

3 LEIGHTON TECHNOLOGIES, LLC,

4 Plaintiff-Counterclaim Defendant,

5 v.

04 Civ. 2496(CM)

6 MANDAMUS HEARING

7 CIBERTHUX CARD SYSTEMS, S.A.,

8 Defendant-Counterclaim Plaintiff.

9  
10  
11 White Plains, N.Y.  
12 February 9, 2005  
13 10:00 a.m.

14 Before:

15 THE HONORABLE COLLEEN McFARLAN,

16 District Judge

17 APPEARANCES

18 SUTHERLAND, ASBILL & BRENNAN, LLP

Attorneys for Plaintiff-Counterclaim Defendant

19 ROBERT A. GUTKIN

ELAIN M. JACOBS

20 NEIL G. COHEN

CHRISTINE ODERICK

21  
22 BAKER & McKEWIE

Attorneys for Defendant-Counterclaim Plaintiff

23 JAMES DAVID JACOBS

24 FRANK M. GASPARO

25 Also present: NIKKIE CLAPIER, Ciberthux inhouse counsel

5290lelh.

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1 THE COURT: Oh.

2 MR. B. JACOBS: See where I'm going?

3 THE COURT: Yes, I see where you're going.

4 MR. B. JACOBS: So there are different stages to this  
5 process, of course. And the buffer pre-lamination --

6 THE COURT: Here's the problem. The patent says that  
7 you position the electronic element prior to lamination  
8 directly between the two plastic sheets in the absence of a  
9 nonelectronic carrier. That's where that comes in. It has to  
10 be positioned directly. It doesn't become direct at the point  
11 of lamination. It becomes direct at the point of positioning.

12 MR. B. JACOBS: And that's what we've tried to show.  
13 If you look at the third diagram over there, where we have  
14 positioned directly the electronic element, where it's touching  
15 plastic sheet one and plastic sheet two --

16 THE COURT: Right. And that's before any lamination.  
17 You put the plastic sheet down. You put the electronic element  
18 on top of it. You put another plastic sheet on top of that.  
19 Then when you have that sandwich, you do the process on it.  
20 Right?

21 MR. B. JACOBS: Yes. That is correct.

22 THE COURT: Right. Okay.

23 MR. B. JACOBS: And so what we're saying is there's  
24 just no need to get into the recess or the buffer. They're  
25 extraneous at this point in time. The nonelectronic carrier



529bleih

1 protects, it holds, it serves a protective purpose, and it has  
2 structure. That's what's clear from the dictionary  
3 definitions. That's what's clear from the prior art. And  
4 that's what's clear from the specification when we look through  
5 and we confirm everything. Those points are the key points  
6 that it has structure, that it protects, and that it holds.

7 Most of those points aren't disputed, if you look at  
8 the proposed construction.

9 THE COURT: There is nothing there that does any of  
10 those things. That's the point of your patent, that there's  
11 nothing that does any of those things.

12 MR. B. JACOBS: That's exactly right. We eliminated  
13 that and, in eliminating that, came up with something novel and  
14 something new. That is the main reason why the first patent,  
15 the '207 patent, issued. The '024, that's correct.

16 So what we did was we amended the claims in the  
17 absence of a nonelectronic carrier. We took out that  
18 protective holder, that disk-shaped holder that was essentially  
19 shown in the prior art, and we explained that that's one of the  
20 benefits, one of the many benefits of this process, that we're  
21 able to —

22 THE COURT: You put down plastic sheet number one.  
23 You put down the electronic element on top of that. You put  
24 plastic sheet number two on top of that.

25 MR. B. JACOBS: And then do the lamination through the

**Exhibit 13 is a true and correct sample  
of unlaminated Amex cards.**

**EXHIBIT 14 IS BEING FILED UNDER SEAL  
PURSUANT TO THE PROTECTIVE ORDER  
ENTERED IN THIS CASE ON AUGUST 20, 2004  
BECAUSE IT CONTAINS CONFIDENTIAL INFORMATION  
DESIGNATED AS "TRIAL COUNSEL'S EYES ONLY"**

**EXHIBIT 15 IS BEING FILED UNDER SEAL  
PURSUANT TO THE PROTECTIVE ORDER  
ENTERED IN THIS CASE ON AUGUST 20, 2004  
BECAUSE IT CONTAINS CONFIDENTIAL INFORMATION  
DESIGNATED AS "TRIAL COUNSEL'S EYES ONLY"**

**EXHIBIT 16 IS BEING FILED UNDER SEAL  
PURSUANT TO THE PROTECTIVE ORDER  
ENTERED IN THIS CASE ON AUGUST 20, 2004  
BECAUSE IT CONTAINS CONFIDENTIAL INFORMATION  
DESIGNATED AS "TRIAL COUNSEL'S EYES ONLY"**

# **EXHIBIT 18**

Barry R. Mosteller

CONFIDENTIAL - Trial Counsel Eyes Only  
New York, NY

February 24, 2006

Page 1

1 UNITED STATES DISTRICT COURT

2 SOUTHERN DISTRICT OF NEW YORK

3

4 -----X

5 LEIGHTON TECHNOLOGIES LLC,

6 Plaintiff,

7 -against-

Civil Action No.

8 OBERTHUR CARD SYSTEMS, S.A., 04-cv-02496

9 OBERTHUR CARD SYSTEMS OF (CM) (LMS)

10 AMERICA CORPORATION,

11 Defendants.

ORIGINAL

12 -----X

13 CONFIDENTIAL - TRIAL COUNSEL EYES ONLY

14

15 Videotaped Deposition of BARRY R. MOSTELLER,

16 taken in the above-entitled matter before RICH

17 GERMOSEN, Certified Shorthand Reporter, (License No.

18 XI01847), Certified Realtime Reporter-NJ, (License

19 No. XR00168), Registered Professional Reporter,

20 Certified Realtime Reporter and a Notary Public

21 within and for the States of New York and New Jersey,

22 taken at the offices of SUTHERLAND ASBILL &amp; BRENNAN,

23 L.L.P., Grace Building, 1114 Avenue of the Americas,

24 40th Floor, New York, New York 10036, on Friday,

25 February 24, 2006, commencing at 9:53 a.m.

Barry R. Mosholder

CONFIDENTIAL - Trial Counsel Eyes Only  
New York, NY

February 24, 2006

Page 96

1 Q. What type of lamination machine is  
2 used?

3 A. A Burkle laminator.

4 Q. Is that the only lamination  
5 machine that's used to make the American Express  
6 contactless smart cards by Oberthur?

7 A. Yes.

8 Q. Is that a weight compensated  
9 laminator?

10 A. No.

11 Q. Can you explain what you  
12 understand a weight compensated laminator to be.

13 A. My understanding of a compensation  
14 laminator means that there is some type of shock  
15 or mechanical connection to eliminate the weight  
16 of the platen.

17 Q. Are you familiar with the term  
18 openings or daylights as it's used on the  
19 laminator?

20 A. I believe I am, yes.

21 Q. How many openings or daylights are  
22 there on the Burkle laminator that's used to make  
23 the commercial contactless smart cards for  
24 American Express?

25 A. Four.



**Exhibit 19 is a true and correct sample of  
unlaminated prelams supplied to Oberthur by Smartrac.**

**Exhibit 20 is a true and correct sample of  
unlaminated prelams supplied to Oberthur by Aontec.**

**Exhibit 21 is a true and correct sample  
of unlaminated Xenon cards.**

# **EXHIBIT 22**

March 9, 1993

TO: Roy FREEMAN  
QENPLUS

FROM: Keith LEIGHTON  
LEIGHTON'S SMART CARDS & SYSTEMS, INC.

SUBJECT: RADIO FREQUENCY IDENTIFICATION CARD AND HOT  
LAMINATION PROCESS FOR THE MANUFACTURE OF  
RADIO FREQUENCY IDENTIFICATION CARDS

---

Thank you for taking time to read my patent. It is important that I emphasize to you the following:

- \* CLAIM 1 COLUMN 6, OF MY PATENT ON RADIO FREQUENCY IDENTIFICATION CARD AND HOT LAMINATION PROCESS FOR THE MANUFACTURE OF RADIO FREQUENCY IDENTIFICATION CARDS

This claim pertains to the processes for incorporating at least one electronic element in the manufacture of a plastic card. I do not juggle or combine known conventional processes with my formulas. My formulas are unique.

In order to perfect a total surface smoothness of 0.0003", I designed special laminating plates which are unique.

The temperatures I use are nonconventional in that I exceed 320 degrees Fahrenheit. I maintain a surface pressure of zero pounds per inch for a specific time period. This is unique.

I liquify the plastic before applying additional pounds per square inch to avoid breaking the electronics. This is unique.

In order to prevent distortion of the printed images, I print on the constructed core sheets containing electronics following the first lamination step - making it possible to reach ISO Standard thickness without adding additional printed sheets. This is unique.

- \* SMOOTHNESS OF THE CARD

Companies are doing the hot lamination, but they are cutting windows/cavities in the card.

Trial Counsel's Eyes Only

L07993

Page 2

March 8, 1999

TO: Ray FREEMAN  
GEMPLUS

FROM: Keith Leighton

In order for a hot lamination glossy card to maintain a total surface smoothness of 0.0005" capable of receiving dye sublimation printing over the entire surface of the card, it cannot have windows/cavities in it. I do not cut windows/cavities and, therefore, my card has a total glossy surface smoothness of 0.0005" and can receive dye sublimation printing over the entire card. This is unique.

\* DETAILED DESCRIPTION OF THE INVENTION  
(COLUMN 4, LINE 12 OF MY PATENT)

Under DETAILED DESCRIPTION OF THE INVENTION, you will read about the wide variety of plastics that can be used to manufacture my card. This variety includes all suitable plastics, the preferred being polyvinyl chloride (PVC). Any manufacturer that makes a plastic card using a hot lamination process without windows/cavities (no matter what plastic they use) is in violation of my patent.

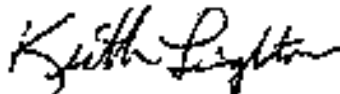
\* FINANCIAL CARD MARKET

My hot lamination card meets the thickness and overlaminates requirements for the world's financial card market (ISO and ANSI standards) and is more attractive to the eye than the cold lamination card. My card can receive the hot foil holograms required in VISA and MASTERCARD and can be embossed in specific areas.

\* CONTACT/CONTACTLESS CARD

I believe contactless cards will replace the contact chip cards in the near future because the banks will demand a hot lamination card for security reasons.

Best regards,



Keith Leighton  
Inventor  
Phone: 440-960-1497  
Fax: 440-960-0013

Trial Counsel's Eyes Only

L07994

# **EXHIBIT 23**





1 area, and do the wire bonding to the chip in  
2 this area. They would put a chip right in here.

3 Q In between those two?

4 A Yeah. This is just an advertisement here.

5 Q And then where would they punch the hole?

6 A In the center here. They would punch a  
7 hole in the center, just to put the chip in,  
8 then they would wire bond to the chip.

9 Q Okay. So the chip would fit in the hole?

10 A Right.

11 Q Okay. And would the hole protect the chip  
12 during the lamination process?

13 A Yes, it would.

14 Q And your process didn't need to have a hole  
15 or recess to protect the chip?

16 A That's correct.

17 Q Okay. Could we -- could you draw the hole  
18 that would be punched? Do you mind if we draw  
19 on this, or --

20 A I don't care. That's all right.

21 Q Okay. Could you draw the hole that would  
22 be -- that's not going to come out too good.

23 That's not bad. Can you just label  
24 that with a little arrow that says "hole." For  
25 chip, that's for the chip?

# **EXHIBIT 24**

\*\*\*\*\*CONFIDENTIAL DEPOSITION\*\*\*\*\*

IN THE UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

Leighton Technologies, LLC, )

Plaintiff-Counterclaim )

Defendant, )Case No.

-vs- )04Civ

Oberthur Card Systems, S.A., )2496(CM)

Defendant-Counterclaim )

Plaintiff. )

- - - o0o - - -

Deposition of KEITH R. LEIGHTON, a  
witness herein, called by the Defendant-  
Counterclaim Plaintiff, as if upon  
cross-examination under the statute, and  
taken before Luanne Stone, a Notary Public  
within and for the State of Ohio, pursuant  
to the issuance of notice and subpoena, and  
pursuant to the further stipulations of  
counsel herein contained, on Sunday, the 9th  
day of October, 2005 at 9:00 o'clock A.M.,  
at the Renaissance Hotel, the City of  
Cleveland, the County of Cuyahoga and the  
State of Ohio.

\*\*\*\*\*CONFIDENTIAL DEPOSITION\*\*\*\*\*

**Tackla**  
**& Associates**

Court Reporting & Videotaping

Tackla & Associates

1801 Ohio Savings Plaza  
1801 E. Ninth Street  
Cleveland, Ohio 44114

216-241-3918 • Fax 216-241-3935

1 conclusion. Vague and ambiguous.

2 BY MR. JACOBS:

3 Q What do you understand the word,  
4 protection, to mean in the context of your  
5 invention, not requiring any protection for  
6 the microchip?

7 MR. GUTKIN: Vague and ambiguous.

8 THE WITNESS: These other  
9 manufacturers are using buffers, a material  
10 that would flow at a lower temperature than  
11 the temperature of flowing the PVC, as one  
12 means.

13 BY MR. JACOBS:

14 Q Any others?

15 A In Motorola's process, their antenna  
16 acted as a buffer, although it was not a  
17 buffer, to take the pressures off the chip  
18 because the chip was within the inside of  
19 the coil of wire. The coil of wire was  
20 thicker than the chip.

21 Q Is the -- was there any other -- any  
22 other type of protection?

23 A Not that I'm aware of.

24 Q Would a P -- PVC layer that had a hole  
25 in it in which the chip sat, would that

1 qualify as protection?

2 MR. GUTKIN: Vague and ambiguous.  
3 Lacks foundation.

4 THE WITNESS: It would relieve  
5 pressure off the chip.

6 BY MR. JACOBS:

7 Q So, it would protect the chip from the  
8 full lamination pressure of the press,  
9 correct?

10 MR. GUTKIN: Same objections.

11 THE WITNESS: It depends on how thick  
12 that sheet is too.

13 BY MR. JACOBS:

14 Q Well, assuming that the thickness of the  
15 sheet fully rose above the level of the  
16 chip, would it protect the chip from the  
17 lamination pressure?

18 MR. GUTKIN: Same objections.

19 THE WITNESS: It would help to. I  
20 would assume it would help to. It depends on  
21 the construction of that chip. For the  
22 different manufacturers, we have different  
23 chips.

24 BY MR. JACOBS:

25 Q So, other than the Motorola chip, you're

# **EXHIBIT 25**

**United States Patent** [75]

Haghtel-Tehrani et al.

[11] 4,450,024

[43] May 22, 1984

[54] IDENTIFICATION CARD WITH AN IC-MODULE AND METHOD FOR PRODUCING IT

[73] Inventors: Yalga Haghtel-Tehrani; Joachim Happe, both of Munich, Fed. Rep. of Germany

[73] Assignor: GMD Gesellschaft für Automation und Organisation mbH, Munich, Fed. Rep. of Germany

[21] Appl. No.: 284,496

[22] Filed Jul. 28, 1981

[30] Foreign Application Priority Data

Aug. 1, 1980 [DE] Fed. Rep. of Germany ..... 302739

[51] Int. Cl.<sup>2</sup> ..... H02K 1/00

[52] U.S. Cl. .... 156/389; 156/182; 156/293; 156/294; 156/306.6; 156/328.6; 156/309.9; 156/322; 156/324.4; 264/272.17; 264/279.1; 428/981; 428/916; 283/75

[50] Field of Search ..... 156/182, 322, 293, 331.7, 156/306, 306.6, 293, 309.6, 309.9, 324.4, 264/272.17, 279.1; 428/67, 801, 76, 916, 138, 235/488; 283/834, 841, 577 Cl. 40/2.2

## [56] References Cited

## U.S. PATENT DOCUMENTS

3,324,123	9/1966	Keller et al.	156/389
3,411,391	11/1968	Thomas	156/309.9
3,477,897	11/1968	Hansen	40/2.2
3,811,977	5/1974	Kramer	156/108
4,234,517	4/1980	Baker et al.	264/272.17

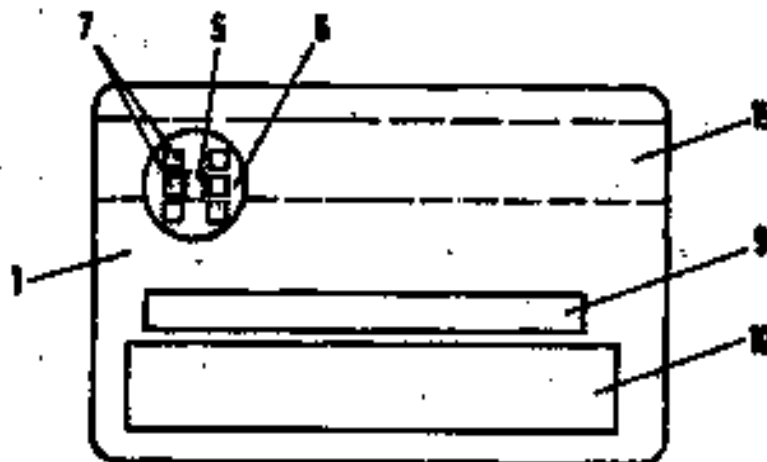
Primary Examiner—John J. Chaffinger;  
 Attorney, Agent, or Firm—Andrus, Deane, Burke & Brown

## [57] ABSTRACT

An identification card equipped with an integrated circuit, in which the circuit along with its connection leads is arranged on a carrier element which is elastically anchored by the card on all sides by way of the last limitation technique. In order to protect the sensitive arrangement, the carrier element is subjected to the full insulating pressure only when one or more layers in the card construction have softened.

This is achieved, for example, by providing buffer zones in the card laminate at least in the area of the arrangement in the form of cavities or layers that are easy to deform elastically. The buffer zones protect the arrangement from local pressure peaks in the initial phase of the laminating process. It is also possible to control the laminating pressure as a function of the temperature or the degree of softening of the card layers.

12 Claims, 9 Drawing Figures



U.S. Patent May 22, 1984

Sheet 1 of 2

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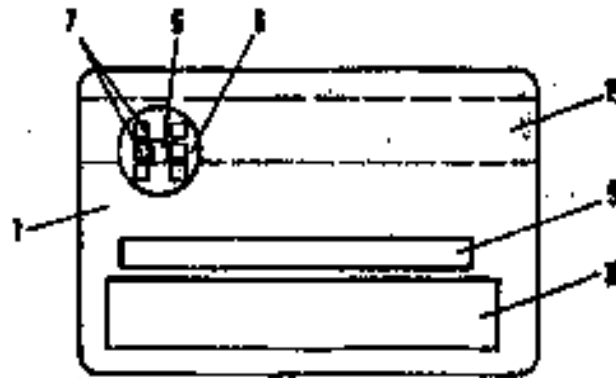


FIG. 1

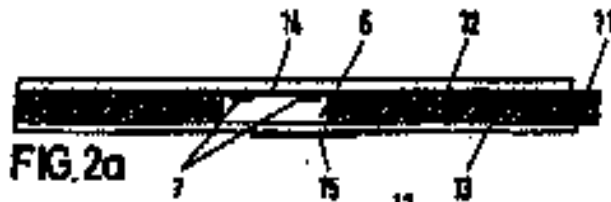


FIG. 2a

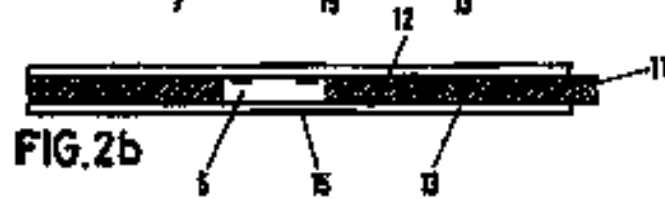


FIG. 2b

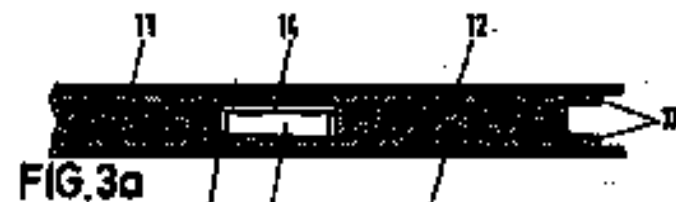


FIG. 3a



FIG. 3b



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Sheet 2 of 2

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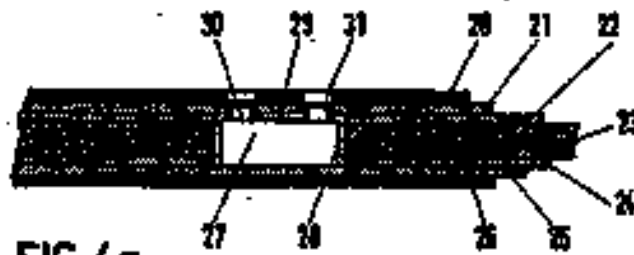


FIG. 4a

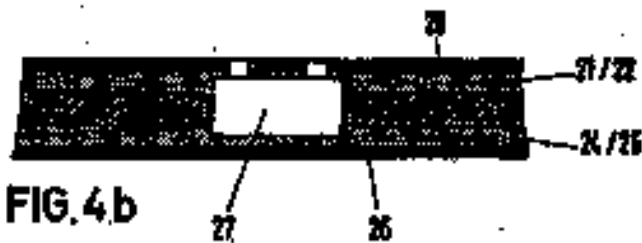


FIG. 4b



FIG. 5a



FIG. 5b

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# IDENTIFICATION CARD WITH AN IC-MODULE AND METHOD FOR PRODUCING IT

The invention concerns an identification card or a carrier data carrier with an IC module for the processing of electrical signals, whereby the IC module along with its connection leads is arranged on a separate carrier element which is small in comparison to the identification card. The invention further concerns a method of producing this type of identification card.

Identification cards with embedded IC modules have been known for some time. The DE-OS No. 26 39 573, for example, discloses an IC module in which all the connection leads are arranged on a separate carrier plate consisting of rigid material. The carrier plate is glued into an appropriately prepared opening in the card or is connected at the edges with the card by a high-frequency welding process. These methods entail only a slight degree of thermal and mechanical stress for the arrangement, but are elaborate in respect to the production, since several procedural steps, some of which are technically complicated, must be carried out in the production of the identification card. The incorporation of the carrier element is intended in the case of this known identification card to take place in the so-called embossing step, so that these cards do not meet the usual norms which require the embossing step to be used only for embossings.

The object of the invention thus consists in providing an identification card with an IC module which avoids the above-mentioned disadvantages and can be produced with considerably fewer technical measures.

According to the invention this object is solved through a carrier element laminated into a card composite and connected with the identification card on all sides and over its entire surface. The method of production is characterized in that during the heating phase of the identification card layers the laminating pressure is kept lower than in the final laminating phase, at least in the area of the carrier element.

The invention uses the hot lamination technique, which has been known for some time and is established in practical operation, in order to apply the carrier element provided with the IC module and the connection leads to the card composite in two procedural steps during the making of the various card layers.

The proceeding of a separate carrier element production independently of the identification card production in order to produce IC identification cards by using the so-called hot lamination technique proves to be particularly advantageous for this purpose.

The carrier element, which also bears all the connection leads in addition to the integrated circuit, is particularly suited to resist mechanical stress. This is especially true of the areas to which the identification card is exposed in daily use.

The employment of a laminating technique that has been tried out for some time in practical operation allows for the possibility of a rational production of the cards.

Furthermore, hot-laminated identification cards are characterized by an excellent appearance which is due to, among other things, the smooth and highly transparent cover layers of the card. Moreover, hot-laminated identification cards are very well suited against forgery, as this technique requires a considerable degree of practical experience and the various layers of a hot-

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laminated identification card can be separated from each other only by destroying the card.

Identification cards with integrated circuits, for the production of which cast heat and/or heat and pressure are used, are already known (DE-OS No. 22 20 711, DE-OS No. 26 39 164). However, unlike the invention at hand, the identification cards of the publications are based on an entirely different construction of the IC card. The network bonded with the integrated circuit is arranged over a large surface of a middle card layer. In these arrangements the connection points between the network and the IC arrangement are greatly endangered during production of the card as well as during its handling.

The prior publications, which mention the identification card production only in passing, are not oriented towards practical application in respect to the identification card technology. The production techniques are taken over from the usual identification card production, without taking into consideration the specific problems arising in the incorporation of IC modules and their connection leads into identification cards.

However, the DE-OS No. 26 39 573 is the first to deal with the practical problems arising in the production and handling of IC identification cards. It refers to the fact that production by means of a hot lamination technique is not possible as the IC arrangement is too greatly endangered especially by the thermal stress. In order to avoid the difficulties first arise from this, another much more elaborate and technically complicated manner of card production is therefore adopted. Although the arguments asked in the DE-OS No. 26 39 573 against the hot lamination technique were substantiated by a number of experiments, it turned out that the production of IC identification cards by the so-called hot lamination technique is nonetheless possible if special measures are taken to protect the IC module and its connection leads. It also turned out that not only the thermal stress, but also the great mechanical stress during the laminating process can endanger the IC arrangement to the same degree, especially when local pressure points appear in the area of the arrangement. This type of stress can break the silicon wafer and/or destroy the junctions of the crystal and the connection leads, which are endangered by the effect of the heat anyway.

The basic idea of the invention consists essentially in applying the full laminating pressure to the carrier element only after one or more layers of the card composite have been softened. This can take place, for example, by providing buffer zones in the card composite before it is laminated, or in the laminating device, which buffer zones keep the full laminating pressure away from the carrier element during the initial phase. A further possibility is to control the laminating pressure as a function of the temperature and/or the degree of softness of the identification card layers. The appearance of local pressure points is not possible as the operations according to the invention all involve the full laminating pressure being applied over the entire surface of the material that is already softened or is elastically deformable in a cold state and surrounds the carrier element.

In the following, the embodiments of the invention are described in more detail with reference to the attached drawings. These show:

FIG. 1—The top view of an identification card with an embedded integrated circuit.

FIG. 2a, b—The first embodiment of the card construction before and after lamination in cross-section.

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FIGS. 3a, b—the second embodiment of the card construction before and after lamination in cross-section.

FIGS. 4a, b—the third embodiment of the card construction before and after lamination in cross-section and

FIGS. 5a, b—the fourth embodiment of the card construction before and after lamination in cross-section.

FIG. 1 shows an identification card 1 with an embedded IC module 5. The IC module itself is placed in a carrier element 6 which has a disk-shaped construction in the embodiment shown. The contact surfaces 7 are provided for contacting.

The carrier element 6 is produced independently of the card production. The construction of the carrier element, the type of materials employed, the arrangement and construction of the contacts can vary greatly depending on the technical resources and the range of application of the elements in the finished identification card.

The identification card shown in FIG. 1 meets the ISO norm in its dimensions and in the arrangement of further functional areas. Accordingly, the magnetic strip 18 is on the reverse side of the card, as also shown in FIGS. 2a, b.

The fields 9 and 10, respectively, are provided for machine-readable and non-machine-readable embedded data.

FIG. 1 shows an advantageous arrangement of the carrier element 6 outside the embedding fields 9 and 10, respectively, in an area of the card subjected to little stress.

The embodiments described in the following show by way of example by what means local pressure peaks can be kept away from the carrier element, although the whole card composite, including the area in which the carrier element is arranged, receives the full laminating pressure at least in the final phase of the laminating process.

It is thus possible to produce identification cards with an integrated circuit with the quality of usual hot-laminated cards without endangering the circuit and its connection leads.

FIGS. 2a and 2b show the first embodiment of the invention before and after the laminating process. The proportions of the various elements of the card are not always shown in correct scale in this and the following embodiments, for the sake of clarity.

The simple card composite shown in cross-section consists of a—possibly multi-layered and painted—card core or card bed 11 and the cover films 12 and 13. The card core and the cover films can consist of PVC (polyvinyl chloride). Paper can also be used as a card bed. The card bed is provided with a closely fitted recess to accept the carrier element 6. The thickness of the card bed is chosen relative to the thickness of the carrier element 6 in such a way that a cavity 14 results in the unlaminated card composite between the surface of the carrier element and the cover film 12.

The carrier element is only subjected to little stress in the initial phase of the laminating process due to the buffer zone formed by the cavity 14. In the further course of the laminating process the card composite is gradually heated up so that the PVC-system softens. In the softening phase of the layers the cavity 14 disappears and the full laminating pressure now also takes effect in the area of the carrier element 6. In this phase

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the softened layers form a cushion which keeps local pressure peaks away from the carrier element.

As shown in the finished card composite (FIG. 2b), the carrier element 6 is connected with the identification card 1 on all sides and over its entire surface. I.e. it is laminated in. In the process a magnetic strip 18, if required, is embedded in the film material in such a way that a smooth surface also results in the area of the magnetic strip.

The contacts or coupling elements 7 are covered in the embodiment by the film 12. This embodiment is thus suitable for indirect (room-temperature) contacting (e.g. capacitive or optical). If the energy transfer is to take place optically, the cover film 12 should be constructed so as to be transparent in the area of the coupling elements 7 according to the type of light employed. When IR (infrared) light is employed, the cover film can be thickened in the area of the carrier elements, so that stray light is simultaneously kept away from the IC arrangement.

In principle direct contacting can also be carried out, i.e. for example, the cover layer 12 is provided for contacting with appropriate contact elements.

FIGS. 3a and 3b show the second embodiment of the invention, in which one or more buffer zones are formed by intermediate layers in the card composite, for example by a so-called laminating adhesive. For this purpose the cover films 12 and 13 are coated with the laminating adhesive 17 before the laminating process (FIG. 3a).

Adhesives suitable for this purpose (e.g. polyurethanes based on adhesive) should be elastic at normal temperatures and have a softening temperature below that of the cover layers chosen for the card composite.

In the above-mentioned embodiment the recess of the card core 11 is provided with a diameter larger than that of the carrier element 6. Thus a free gap 15 arises around the carrier element 6, in addition to the cavity 14 shown in FIG. 2a. The recess need not in this case be fixed to the carrier element within such narrow limits as in the arrangement shown in FIG. 2a.

The carrier element is hardly subjected to any stress in the initial phase of the laminating process in the card construction shown in FIG. 3a either. As soon as the laminating temperature reaches the softening temperature of the adhesive 17 and finally surpasses it, the laminating adhesive 17 flows into the cavities 14 and 15 and thus forms a homogeneous casing for the carrier element 6.

The carrier element thus protected from local pressure peaks can now accept the full laminating pressure over its area and transfer it to the surroundings. In the meantime the cover films have also reached the softening temperature so that finally an intimate composite of all layers with each other and with the carrier element which is closed in on all sides, results.

In the complete laminated identification card (FIG. 3b) the carrier element 6 is surrounded by the adhesive 17 which is plastic in a cold state and keeps the mechanical stress arising in the daily use of the card away from the carrier element to a considerable degree.

Polyurethanes can be processed not only as a fusion adhesive, but also in the form of a fusion adhesive film in the card composite. If a very soft polyurethane fusion adhesive film (e.g. plation 1002-TM Plastic Bond One-H) is used in the card composite, it is possible to choose the thickness of the various card layers relatively to the thickness of the carrier element within such limits as to

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to make the cavity 34 very small or completely disappear, if need be. A very soft fusion adhesive film is able to accept local pressure peaks to a certain degree, even when the card composite is in a cold state. When the film softens the laminating process then proceeds as described above.

FIGS. 4a and 4b show the third embodiment of a card construction according to the invention, in which the buffer zones are formed by using, among other things, compound films.

The arrangement shown in FIG. 4a shows the construction of the card layers before lamination.

The many-layered card core consists of a paper layer 23 and the films 22 and 24 arranged on both sides of this layer. These films consist of the thermoplastic material polyethylene (PE), PE can be varied within broad ranges as far as its mechanical and thermal qualities are concerned depending on its density. PE with low density is, unlike PVC, relatively soft while having great plastic deformability and a low softening point.

In the extended card core a route is punched depending on the diameter of the carrier element 27, which route leaves a gap 28 all around the carrier element. The thickness of the various layers of the card core is chosen relative to the thickness of the carrier element 27 in such a way that a cavity 29 also remains between the carrier element and the cover layers 21 and 23 next to it. The cover layers 20, 21 and 22, 24 consist of polyethylene-coated polyvinyl chloride films which are processed as compound films. The upper cover layer 20, 21 is provided with appropriate coatings 31 to conduct the contacts 30 of the carrier element 27.

In a cold state the carrier element 27 is hardly affected by the pressure of the laminating plate due to the selected layer construction. In the course of the laminating process the PE layers are first subjected to the flow phase so that the cavities 28, 29 are filled up with the PE material. The coating protects the carrier element from local pressure peaks during the high pressure necessary in the final phase of lamination and also provides good protection against mechanical deformation in the daily use of the card.

In the embodiment of an IC-identification card shown in FIG. 4b, the contacts of the carrier element 27 are directed to the surface of the cover layer, so that in this case direct contacting is possible.

FIGS. 4a and 4b show a fourth embodiment of the invention, in which only so-called compound films are used to form the buffer zones.

The compound film used in this example as cover layers are polyester films (PET) 33 and 34, respectively, which are coated with polystyrene (PS) 35 and 36, respectively. The symmetrically adjacent second compound film consists of PE 34, 35 and PVC 36, 37. The card core itself 36 can consist optionally of PVC or paper due to this special card construction.

FIG. 4b shows the identification card after the laminating process, which can proceed as explained in connection with FIGS. 4a, 4b. As mentioned, the cover film of this identification card consists of a special polyester.

PET (polyethylene glycol terephthalate) is a thermoplastic polymer with very great rigidity, great electric resistance, little tendency to contract and a high softening point. These films are thus especially well suited for identification cards that are exposed to great stress in daily use.

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As the polyester film employed here only little tendency to contract, unlike, for example, PVC films, it is possible to keep the card composite at first without using pressure, until the PE layers go into the flow phase. The card composite indicated in this way is then pressed together under pressure. The card layers that have been softened in a heating mold can then subsequently be pressed together e.g. with the help of two rollers, by the so-called roller lamination technique.

In the above embodiments buffer zones are provided in the layer construction of the card composite to protect the carrier element.

It is, however, also possible to provide the carrier element itself with a buffer zone over its entire surface or only partially—before lamination. Unlike material, their properties and their behavior during the laminating process have been mentioned in connection with the description of FIGS. 3a and 3b. The carrier element could be dipped in an appropriate resin for a coating of its entire surface.

If the carrier element itself consists of rigid material, a partial coating of the element can, for example, be provided by covering the contact side with a fusion adhesive film as a buffer zone.

A further possibility of protecting the carrier element from local pressure peaks during lamination consists in coating the laminating plate with a soft, flexible material at least in the area of the carrier element. Silicon rubber is, for example, appropriate for this purpose.

Finally it is also possible to protect the carrier element against local mechanical stress during incorporation into identification cards, if the laminating pressure is adjusted as a function of the temperature. In this case the contracting tendency of the film type employed must be taken into consideration, as it rises with the temperature.

The laminating pressure will then be increased as a function of the temperature in such a way that the films involved do not warp, but on the other hand the carrier element is subjected to the full laminating pressure in the final phase of the laminating process, after the card layers have softened. By use of this method of controlling the laminating pressure as a function of the temperature, integrated circuits can be embedded in identification cards undamagedly, without any need of additional measures.

On the other hand, it may prove useful for certain cases of application, e.g. the processing of films with a great contracting tendency, to combine the method of controlling the laminating pressure with one or more of the above-mentioned protective measures.

What is claimed is:

1. A method for producing a multi-layer identification card having an IC-module for processing electrical signals, the IC-module with its connection leads being arranged on a separate carrier element that is small relative to the identification card, said method avoiding local pressure on the carrier element during production of the card and comprising the steps of:

providing an identification card assembly including an internal layer having a recess for the carrier element and at least one covering layer heat and/or solvent sensitive to the internal layer, at least one of said layers being thermally softenable;

inserting the carrier element in the recess;

before or after inserting the carrier element in the recess, establishing a buffer pressure in the carrier element for limiting the application of force to

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the carrier element prior to thermal softening of the card layer; and  
 applying heat and pressure to the identification card assembly to heat seal the layers together, said buffer limiting the application of force to the carrier element prior to softening of the thermally softenable layer to avoid localized pressure on the carrier element.

2. The method as in claim 1 wherein the step of establishing the buffer is further defined as forming the recess in the internal layer of the identification card assembly to provide spacing between at least one of the layers and the carrier element prior to the softening of the thermally softenable layer.

3. A method as in claim 2 wherein the step of establishing the buffer is further defined as providing an additional card layer intermediate the internal layer and covering layer having a lower thermal softening point than that of the covering layer or internal layer.

4. A method as in claim 2 wherein the step of establishing the buffer is further defined as at least partially encasing the carrier element in a material having a thermal softening point lower than that of the covering layer.

5. A method as in claim 1 wherein the step of establishing the buffer is further defined as providing an

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elastic means intermediate the carrier element and at least one of the layers to which pressure is applied.

6. A method as in claim 5 wherein the step of establishing the buffer is further defined as at least partially encasing the carrier element in an elastic material.

7. A method as in claim 5 wherein the step of establishing the buffer is further defined as forming the buffer by incorporating an elastic layer in the identification card assembly.

8. A method as in claim 5 further defined as providing an elastic means intermediate the carrier element and layer that has a higher degree of elasticity in the unheated state than the layers of the card assembly.

9. A method as in claim 1 further defined as controlling the pressure applied to the assembly as a function of the temperature of the assembly.

10. A method as in claim 1 further defined as controlling the pressure applied to the assembly as a function of the amount of softening of the thermally softenable layer.

11. A method as in claim 3 further defined as applying the heat to the identification card assembly and thereafter applying pressure to the assembly.

12. A method as in claim 7 wherein the step of establishing the buffer is further defined as forming the buffer as an elastic coating on one of the layers of the card.

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# **EXHIBIT 26**



**Westlaw.**

423 F.Supp.2d 423

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(Cite as: 423 F.Supp.2d 423)

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**H****Briefs and Other Related Documents**

Leighton Technologies LLC v. Oberthur Card Systems, S.A.S.D.N.Y., 2006.

United States District Court, S.D. New York,  
LEIGHTON TECHNOLOGIES LLC, Plaintiff,  
v.  
OBERTHUR CARD SYSTEMS, S.A., Defendant,  
No. 04 Civ. 2496.

April 13, 2006.

**Background:** Assignee of patents for lamination method of manufacturing "contactless smart cards" sued competitor for infringement. Following claim construction, 338 F.Supp.2d 361, competitor moved for summary judgment on its invalidity counterclaim.

**Heldings:** The District Court, Mohrman, J., held that:

- (1) fact issue existed as to whether patent was anticipated, and
- (2) fact issue existed as to whether patent was obvious.

Motion denied.

West Headnotes

(1) Patents 291 Cmw72(1)

**291 Patents****291II Patentability****291III(D) Anticipation****291K72 Identity of Invention****291K72(1) k. In General. Most Cited Cases****Cases**

Patent anticipation requires presence in single prior art disclosure of each and every element of claimed invention. 35 U.S.C.A. § 102(b).

(2) Patents 291 Cmw65

**291 Patents****291II Patentability****291II(D) Anticipation****291K53 Prior Patents****291K53 k. Sufficiency of Description.****Most Cited Cases**

Where prior art document does not explicitly disclose all elements of claimed invention, it may nevertheless anticipate by inherency if material omitted would be recognized by one skilled in the art as necessarily present. 35 U.S.C.A. § 102(b).

(3) Patents 291 Cmw62(3)

**291 Patents****291II Patentability****291III(D) Anticipation**

291K52 Evidence of Prior Knowledge or Use

**291K62 Weight and Sufficiency**

291K62(3) k. Degree of Proof Required. Most Cited Cases

Patent anticipation must be established by clear and convincing evidence. 35 U.S.C.A. § 102(b).

(4) Patents 291 Cmw112(3.1)

**291 Patents****291XII Infringement****291XIII(C) Suits in Equity****291K312 Evidence****291K312(3) Weight and Sufficiency**

291K312(1.1) k. In General. Most Cited Cases

Where technology in question is easily understood, factfinder may consider questions of patent infringement and invalidity without expert testimony.

(5) Patents 291 Cmw323.2(3)

**291 Patents****291XII Infringement****291XIII(C) Suits in Equity****291K323 Final Judgment or Decree****291K323.2 Summary Judgment**

291K323.2(3) k. Particular Cases. Most Cited Cases

Issue of material fact as to whether multiple advertising brochures from single source constituted single prior art reference precluded summary judgment on claim patent for method of manufacturing contactless

423 F.Supp.2d 425  
 423 F.Supp.2d 425  
 (Cite as: 423 F.Supp.2d 425)

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smart cards was invalid as anticipated. 35 U.S.C.A. § 102(b).

[6] Patents 291 C=323.2(3)

291 Patents

291XII Infringement

291XII(C) Suits in Equity

291k323 Final Judgment or Decree

291k323.2 Summary Judgment

291k323.2(3) k. Particular Cases.

Most Cited Cases

Issue of material fact as to whether prior art's "sandwich" diagram and temperature pressure chart inherently disclosed all elements of patent for method of manufacturing contactless smart cards precluded summary judgment of invalidity due to anticipation. 35 U.S.C.A. § 102(b).

[7] Patents 291 C=62(1)

291 Patents

291III Patentability

291III(1) Anticipation

291k37 Evidence of Prior Knowledge or Use

291k62 Weight and Sufficiency

291k62(1) k. In General. Most Cited

Cases

Unless technology is easily understood, claim of patent anticipation must be accompanied by expert testimony. 35 U.S.C.A. § 102(b).

III Patents 291 C=16(2)

291 Patents

291III Patentability

291III(A) Invention; Obviousness

291k16 Invention and Obviousness in General

encl

291k16(2) k. Prior Art in General. Most

Cited Cases

Patents 291 C=16(3)

291 Patents

291III Patentability

291III(A) Invention; Obviousness

291k16 Invention and Obviousness in Gen-

encl

291k16(3) k. View of Person Skilled in Art. Most Cited Cases

Patents 291 C=16.13

291 Patents

291III Patentability

291III(A) Invention; Obviousness

291k16.13 k. Fact Questions. Most Cited

Cases

Finding of patented invention's "obviousness" depends on factual findings as to state of prior art, differences between prior art and patent claims, and amount of skill that constitutes ordinary skill in the art. 35 U.S.C.A. § 103.

[9] Patents 291 C=323.2(3)

291 Patents

291XII Infringement

291XII(C) Suits in Equity

291k323 Final Judgment or Decree

291k323.2 Summary Judgment

291k323.2(3) k. Particular Cases.

Most Cited Cases

Issue of material fact as to whether one skilled in art would have combined prior art references in manner claimed in patent for method of manufacturing contactless smart cards precluded summary judgment of invalidity due to obviousness. 35 U.S.C.A. § 103.

Patents 291 C=328(2)

291 Patents

291XIII Decisions on the Validity, Construction, and Infringement of Particular Patents

291k328 Patents Reexamined

291k328(2) k. Original Utility. Most Cited

Cases

4,490,024, 4,841,134, 4,897,533, 4,519,401, Cited as Prior Art.

Patents 291 C=328(2)

291 Patents

291XIII Decisions on the Validity, Construction, and Infringement of Particular Patents

291k328 Patents Reexamined



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 423 F.Supp.2d 425  
 (Cite as: 423 F.Supp.2d 425)

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2916328(2): k. Original Utility. Most Cited Cases

5,517,207, 5,036,099, 6,214,155, 5,514,367. Cited.

\*426 Blair Maria Jacobs, Christian Ann Ondrich, Robert A. Gyskin, Sutherland Asbill & Brennan LLP, Washington, DC, Neal S. Cohen, General Patent Corporation International, Suffern, NY, for Plaintiff.  
 James David Jacobs, Susan Ripman Koss, Todd S. Sherman, Frank Michael Gammann, Baker & McKenzie LLP, NY, NY, for Defendant.

DECISION AND ORDER DENYING DEFENDANT'S MOTION FOR SUMMARY JUDGMENT  
 McMAHON, District Judge.

### Facts

Plaintiff Leighton Technologies LLC is assignee of four related patents in the field of manufacturing integrated circuit cards, also known as "IC cards" or, more commonly, "smart cards." The patents describe a method of manufacturing contactless smart cards by lamination.

Conventional lamination techniques call for stacking unstacked layers of poly(vinyl chloride (PVC), polyester, or other plastic, possibly between layers of adhesives, to form a "book." The book is placed between two metal plates which can be precisely heated, cooled, and weighted to apply heat and pressure to the book. Laminating devices range in size from single-card devices to high-capacity devices with several sets of plates stacked vertically.

Smart cards are credit-card-sized sheets of laminated plastic which contain embedded electronics—microchips, memory devices, antennas, etc. Some models of smart cards only operate when placed in physical contact with another computer (called a reader), which communicates with the card through metal pick-ups on the card's surface. Newer models, called "contactless" smart cards, have built-in radio frequency antennas in place of metal "427 contacts; to send and receive data, the card just has to be "swiped" past a radio transmitter. "Hybrid" or "dual-function" smart cards possess both a contact interface and a wireless antenna connected to the same microchip or storage device.

Although there are industry standards for the design and function of smart cards, there is no standard method of manufacturing them. Old methods involve "milling" (drilling a cavity into a card after lamination) and inserting electronics into the cavity. Another method involves enclosing sensitive electronics in protective layers of plastic and laminating the components between sheets of PVC or other plastic. The insulating layer protects the components from the heat and pressure of lamination, but tends to produce thicker, less aesthetically pleasing cards.

### A. Plaintiff's History

Kath Leighton, founder of Leighton Technologies, first noted the problems inherent in laminating smart cards while under contract to Motorola to produce contactless smart cards. Leighton Decl., ¶ 4. His initial attempts involved enclosing electronic elements directly within the books, and laminating the books with a printed circuit board (PCB) laminator. PCB laminators operate at higher heat and pressure than plastic card laminators, and used separate stacks for heating and cooling. *Id.* ¶¶ 5-6. Leighton had very little success in his initial attempt—many of the cards broke during lamination, and the remainder lacked a smooth surface and finish. *Id.* ¶ 7.

Leighton continued to research laminating techniques for contactless smart cards after the contract with Motorola expired, and ultimately seized upon a process that produced aesthetically pleasing devices at high yields and low cost. This process called for laminating a card containing electronic components in a specific sequence of temperatures and pressures which minimized damage to both the plastic sheets and the internal electronics. He patented his method in the four patents at issue in this case ("the Leighton patents").

### B. Plaintiff's Patents

Leighton's method, as described in his first patent, No. 5,517,207 (issued October 6, 1998), calls for the placement of electronic elements (such as microchips, wireless antennas, or other devices), "in the absence of a non-electronic carrier," within the core of a book of plastic sheets, followed by the application

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tion of a specific cycle of heat and pressure. See 207 Patent, col. 6, lines 18-36. The heat and pressure cycle consists of (i) heating the core, then (ii) applying a first pressure to the core, and finally (iii) cooling the core while applying a second pressure. *Id.* at 6:30-36. The card could then be inked and overlaminated. *Id.* at 6:37-40. Subsequent dependent claims recite additional limitations related to specific pressure and temperature settings (claims 6 through 9), and the composition and thickness of the plastic sheets.

Plaintiff's first draft of the claims, which did not recite the limitation that the electronics be placed in the book in "the absence of a nonelectronic carrier," was rejected by the examiner during prosecution in light of U.S. Patent no. 4,450,024, which describes a similar process for lamination. (Def. Ex. 14). The claims were then amended to their present form.

Plaintiff's second patent, Number 6,036,099 (issued March 4, 2000), describes a similar process for the manufacture of hybrid smart cards. The first independent claim describes a process similar to that of the 207 Patent, but provides a final step in which the metal contact plate is exposed by milling. 099 Patent, col. 9:1-5. Dependent claim 425 in the 099 Patent also recites a second pressure between 10% and 40% of the first pressure (*id.* at 9:33-36), although the description of the invention indicates that 25% is preferred. *Id.* at 6:39. The process also describes the lamination of an upper sheet with a pre-milled cavity, with the cavity being filled by a removable spacer during lamination, rather than a final milling step. (*id.* at 10:32-56).

ENL. The dependent claims also recite a first pressure of approximately 450 p.s.i. (*id.* at Col. 9, lines 31-32), different than the 1000 p.s.i. figure in the 207 Patent. 207 Patent, 7:10-13. However, documents contained in the prosecution history indicate that a run pressure of 1000 p.s.i. equals approximately 450 p.s.i. of apparent pressure on the laminate. In other words, the two numbers seem to be equivalent.

Plaintiff's third patent, number 6,214,155 (issued April 10, 2001), is a continuation of the 207 Patent. It

recites method similar to that of the 207 Patent, but does not recite a final printing step. 155 Patent, 6:18-38.

Plaintiff's fourth patent, number 6,514,367 (issued February 4, 2003) is a continuation of the 099 Patent. In its first draft, it recited a method similar to that of the 099 Patent (for the manufacture of hybrid cards), but, like the 155 Patent, did not recite a final printing step.

However, during prosecution of the 367 Patent, the examiner discovered additional references which he determined to constitute prior art: Japanese Patent No. B6-176214 and UK Patent No. 2,379,610. Sharon Deol, Ex. 7 at OCS-C-045452. The JP 214 patent, granted June 24, 1994, recites a "Thin-Type Contactless IC Card," in which electronic elements such as a microchip and a radio frequency antenna are arrayed between two sheets of plastic, and the entire unit is held together by "thermo-compression bonding"—another term for lamination. Sharon Deol, Ex. 24. The UK 610 Patent, dated November 1, 1995, recites a method of laminating smart cards (including contactless smart cards or other cards containing "inductive loop[s]" of material). Sharon Deol, Ex. 18. The patent office found that JP 214 taught the encapsulation of electronic elements directly between sheets of laminate, while the UK 610 Patent taught a similar multi-step heat and pressure cycle during lamination. Sharon Deol, Ex. 7 at OCS-C-045452-53.

Plaintiff responded to the above by further limiting the scope of the independent claims of the 367 Patent. The new claims disclosed a method in which the second pressure applied to the card during the lamination process was 10% greater (or more) than the pressure applied during the first pressure. 367 Patent, 9:2-3. With this limitation, the patent was issued.

The earliest effective filing date of plaintiff's patent application is October 17, 1995. Def. SO&P ¶¶ 2-5.

### C. The Oakwood Series 6

Defendant's arguments in favor of invalidity rely on a series of documents published by Oakwood Design, a British firm that designed and manufactured template-

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ing devices between 1987 and 1991 under the brand name "Series 6." The three documents in question are marketing brochures and technical specifications related to the capabilities of the Series 6 devices: one brochure entitled, "Oakwood Series 6 Laminators," another entitled "Laminator Presses for Bank Card and Printed Circuit Board Production," and the instruction Manual for operation of several Series 6 Laminators. Declaration of Todd S. Sharfen, Ex. 10-12.

\*429 The affidavit provided by the founder of Oakwood, Richard Smith, states that during the 1990s, the state of the art in PVC lamination called for a single-step process in which heat and pressure would be applied at the same time. Declaration of Richard Smith, ¶ 8. This approach was highly error-prone: either heat and high pressure would be applied, causing the printed material on the surface of the card to smear; or heat and low pressure would be applied, causing bubbling and other irregularities in the card to surface. These problems led Smith to develop a two-step process, in which low pressure and heat would be applied during a first step, followed by an increase in pressure coupled with a decrease in temperature. *Id.* ¶ 9.

The Oakwood documents describe this two-step PVC lamination process, in which heat and moderate pressure would be applied first and then greater pressure would be applied as the temperature was reduced. Oakwood's "Lamination Presses" brochure includes a chart depicting the temperature and pressure applied to the cards over time. Sharfen Decl., Ex. 11 at 6.<sup>FN2</sup> This chart makes clear that heat and pressure are raised at the beginning of lamination, with pressure reaching a plateau slightly before the temperature reaches its highest point. Both temperature and pressure are held constant for a certain period, after which the pressure is doubled while the cards are cooled. *Id.* The diagram does not state specific times, temperatures, and pressures. *Id.*

<sup>FN2</sup> The Oakwood brochures do not contain page numbers; page numbers are per my court.

A second Oakwood brochure, "Series 6 Laminators,"

describes how one can use the Series 6 laminator to embed microchips, electronics, inductive coils or magnetic strips into laminated PVC cards. One diagram in particular, entitled "Card Set for machine reading application," appears to depict a "sandwich" of several layers of plastic, including a printed layer containing a photographic image, a framing layer, and a transparent cover, surrounding a layer of what could be inductive coils etched on a substrate. Sharfen Decl., Ex. 10 at 4. I say "appears to" because the diagram itself contains no descriptive labels. The diagram is unlabeled, but appears to depict a "sandwich." Text on the same page, but not linked to the diagram, reads, "Oakwood technicians are skilled in the use of PVC polyester and epoxy substrates and have packaged the most sophisticated micro chips within the core structure of a card." *Id.* The "Series 6 Laminators" brochure does not contain the temperature and pressure chart from page 6 of the "Lamination Presses" brochure.

#### D. Procedural History

Defendant Oberthur Card Systems is a worldwide manufacturer of smart cards and other electronic devices. It manufactures smart cards overseas and imports them into the United States, and maintains control over United States subsidiaries who manufacture smart cards domestically. *Compt.*, ¶¶ 12-13. Plaintiff filed the present complaint on March 30, 2004, alleging that defendant's manufacture and importation of smart cards infringe on its four patents.

Defendant now moves for summary judgment on the grounds that the Leighton patents are anticipated by the Oakwood documents (35 U.S.C. § 102), or are obvious in light of the Oakwood documents and other prior art (35 U.S.C. § 103).

\*434 Oral argument was heard on April 4, 2006. I thank both sides for their interesting presentations.

#### Discussion

Oberthur's argument for summary judgment involves a two-step reasoning process. It first argues that Claims 20 of the 367 Patent, as well as claims 1, 6-8, and 11-14 of the 155 Patent, were anticipated by the Oakwood reference and so must be invalidated. It

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then asserts that the rest of the claims in suit are obvious within the meaning of 35 U.S.C. § 103 thereby invalidating the patents in their entirety. At both steps, the argument for summary judgment fails.

#### A. Anticipation

[1] 35 U.S.C. § 102(b) provides that a patent will not issue if the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country more than one year prior to the date of the application for patent in the United States. "Anticipation under 35 U.S.C. § 102(b) requires the presence in a single prior art disclosure of each and every element of a claimed invention." *Alcon Med. Sys., S.A. v. Consumer Life Sci.*, 34 F.3d 1048, 1053 (Fed.Cir.1994). Where a claim is anticipated by a prior written document, such document must teach one skilled in the art to practice the invention "without undue experimentation." *Hoechst Pharm., Inc. v. Bio-Technology General Corp.*, 474 F.3d 1347, 1355 (Fed.Cir.2005).

[2] [3] [4] Where a document does not explicitly disclose all elements of a claimed invention, it may nevertheless anticipate "by inherency" if the material omitted would be recognized by one skilled in the art as necessarily present. *Continental Can Co. v. Monsanto Inc.*, 948 F.2d 1264, 1268 (Fed.Cir.1991). Anticipation must be established by clear and convincing evidence. *Id.*

To show anticipation by a given reference typically, testimony concerning anticipation must be testimony from one skilled in the art and must identify each claim element, state the witness' interpretation of the claim element, and explain in detail how each claim element is disclosed in the prior art reference.

*Kento Air. Co. Ltd. v. Tern-Kay Tech. LLC*, 381 F.3d 1142, 1152 (Fed.Cir.2004). However, where the technology in question is "easily understood," the factfinder may consider questions of infringement and invalidity without expert testimony. *Prima Tech. LLC v. Polysar S.A.R.L.*, 412 F.3d 1284, 1290 n.7 (Fed.Cir.2005).

There are two problems that lead to denial of defendant's motion.

[3] First, there are disputed issues of material fact concerning whether the three Oakwood documents submitted by Oberthur, taken together, constitute a "single source" within the meaning of the anticipation doctrine and 35 U.S.C. § 102. The "sandwich" diagram appears in one reference and the temperature and pressure chart appears in another. The two must qualify as a single "reference" to constitute anticipatory prior art.

"[I]nvalidity by anticipation requires that the four corners of a single, prior art document describe every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation." *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed.Cir.2000).

On their face, the three separate Oakwood brochures do not appear to meet the single reference standard. Oberthur might have an argument if the documents were always distributed together and as "a part of a single bundle or package. But the record is devoid of any evidence on that issue. That alone warrants denial of the motion.

[6] But there is another hole in the record. This Court cannot conclude, from looking at any of the Oakwood source material, that a person ordinarily skilled in the art of making laminated plastic cards would understand the "sandwich diagram" and the temperature-pressure chart to disclose all of the elements of Claim 20 of the 357 patent. And there is no basis for me to conclude that the Oakwood materials satisfied the standard for anticipation "by inherency" as to one "skilled in the art" testified on the issue. <sup>FN3</sup> *Continental Can Co. v. Monsanto Inc.*, 948 F.2d 1264, 1268 (Fed.Cir.1991) (holding that where a document does not explicitly disclose all elements of a claimed invention, it may nevertheless anticipate "by inherency" if the material omitted would be recognized by one skilled in the art as necessarily present).

FN3. Oberthur relies on an affidavit by Barry Mosteller, Director of Product Development for Oberthur in its Exton, Pennsylvania facility, in which he discusses the "sandwich diagram." Mosteller Declares

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tion, ¶¶ 9-17. However, at no point does he assert that the sandwich diagram *obviously* includes data on how such a composition would be laminated. However, even if he made such a claim, his assertion would at best create a question of fact for the jury.

[7] As a general rule, anticipation must be accompanied by expert testimony and must be established by clear and convincing evidence.

To show anticipation by a given reference: typically, testimony concerning anticipation must be testimony from one skilled in the art and must identify each claim element, state the witness' interpretation of the claim element, and explain in detail how each claim element is disclosed in the prior art reference.

Kettner Aff. Co. Ltd. v. Thermo-King Tech. LLC, 381 F.3d 1147, 1152 (Fed.Cir.2004). Where the technology in question is "easily understood," the factfinder may consider questions of infringement and invalidity without expert testimony. Prima Tek H. LLC v. Polypac S.A.B.L., 412 F.3d 1284, 1290 n. 7 (Fed.Cir.2005). Oberthur argues that the technology in this case so qualifies. I disagree.

The "sandwich diagram" is captioned "Card set for a machine reading application," but is not otherwise labeled. The related text does not speak of the presence or absence of a "non-electronic carrier," as recited by claim 20. Defendant's assertions that the diagram would teach the presence of "at least one electronic element in the absence of a non-electronic carrier" to one of ordinary skill as a matter of "common sense" are not convincing. Indeed, on the record before me, there appears to be some disagreement as to what the sandwich diagram depicts, and whether such a construction anticipates the Leighton patents. See Deposition at Richard Smith at 106-107. A factfinder would need to weigh the expert testimony as to what a person skilled in the art could get out of the diagram and the accompanying text in order to decide on the issue of anticipation.

A factfinder would also need to hear from a person skilled in the art in order to ascertain whether the diagram, showing the relationship between temperature, pressure and time, which Oberthur claims discloses

the Leighton process, would in fact teach one of ordinary skill in the art the three-step cycle recited in claim 20(c)(i)-(ii). It is entirely possible that one skilled in the art would have to embark on considerable experimentation before "432 he hit upon the precise combination of time, temperature and pressure that would result in a card with the quality of a Leighton card.

It is certainly not apparent to me—a person not skilled in any relevant art except the reading of documents—that the diagram discloses the elements of the claim 20 process. Indeed, as I look at the diagram, I as an unskilled person would conclude that it does not disclose Claim 20, because it appears to me that there is an overlap between what is supposed to happen during the "first period" of the Claim 20 process (heating) and what is only supposed to occur during the "second period" of the claim 20 process (evacuation pressure). It may be that a person skilled in the art could explain to me (and to a jury) the error of my perception. Clearly, the issue must go to trial.

### B. Obviousness

[8] Oberthur claims that those claims in suit that are not anticipated by the Oakwood documents should nevertheless be invalidated as obvious under 35 U.S.C. § 103. Unlike a finding of anticipation, a finding of obviousness does not require that a single piece of prior art disclose all the elements of the claimed invention. Rather, a patented invention is obvious

if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

35 U.S.C. § 103(a) (2000). A finding of "obviousness" depends on factual findings as to the state of the prior art, the differences between the prior art and the claims, and the amount of skill that constitutes "ordinary skill in the art." Advanced Display Sys. Inc. v. Kent State Univ., 212 F.3d 1272, 1284 (Fed.Cir.2000).



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Summary judgment cannot be granted on the issue of obviousness. <sup>END</sup>

END. Oberthur does not argue that claim 20 of the 367 Patent is obvious. Because there is a genuine issue of fact concerning the anticipation argument of claim 20, and because Oberthur relies on the Oakwood documents in its obviousness argument as well, there is no avoiding a trial.

[9] Defendant relies on the Oakwood Manual, UK Patent 610, and U.S. Patents 5,519,201, 4,841,334, and 4,897,333 as evidence that Leighton's claims (other than claim 20) would be obvious to one skilled in the art. However, Oberthur has not established that one skilled in the art would have combined these particular references so as to make the claims in the Leighton patents obvious.

"There must be some teaching, suggestion, or motivation in the prior art to select the teachings of separate references and combine them to produce the claimed combination." *In re Johnston*, 435 F.3d 1381, 1384 (Fed.Cir.2006). Such a teaching or motivation can be established by expert testimony regarding the nature of the problem and the level of knowledge of one skilled in the art at the time of the invention. *Id.* at 1385. However, this Court must rely on expert testimony for such a finding-it "cannot simply reach conclusions based on its own understanding or experience-or on its assessment of what would be basic knowledge or common sense." *In re Zechin*, 258 F.3d 1379, 1386 (Fed.Cir.2001) (reviewing a determination of the Board of Patent Appeals and Interferences).

The claims in suit, the prior art, and the knowledge of one of ordinary skill are "primary considerations" in the Court's analysis, although I may also consider relevant "433 "secondary" factors that would indicate a motivation to combine, such as the device's commercial success, "long felt but unmet needs," and the failure of other inventors to succeed. *Auto Mfg. Co. v. McSor Inc.*, 950 F.2d 714, 719 (Fed.Cir.1991). In other words, if one inventor succeeds where numerous others failed, or if the patented invention in suit was highly successful in the market, such factors in-

dicate an increased likelihood that the claimed invention was not obvious at the time of invention.

As plaintiff correctly points out, numerous questions of material fact preclude summary judgment at this stage. I have not heard from one skilled in the art so I don't know whether combining these references would have been obvious. End of story.

As to secondary considerations, the commercial success of cards manufactured by Leighton, the state of the market for wireless accessories at the time of invention, and the success or failure of others at the same time are all unresolved issues of fact on the present record.

### Conclusion

Defendant's motion for summary judgment is denied. A final pre-trial order and all motions in limine are due June 9, 2006. All exhibits are to filed on that date, along with objections to exhibits, as per my individual practice rules. I will schedule a final pre-trial conference over the summer to rule on all objections and in limine motions. A trial date will be set for the fall at the earliest date possible.

This constitutes the decision and order of the Court.

S.D.N.Y., 2006.

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- [2006 WL 1416590](#) (Trial Motion, Memorandum and Affidavit) Plaintiff Leighton Technologies' Memorandum in Opposition to Defendant's Request

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to Set Aside Magistrate Smith's March 27, 2006 Order (Apr. 20, 2006) Original Image of this Document with Appendix (PDF)

• [2006 WL 1416988](#) (Trial Motion, Memorandum and Affidavit) Oberthur Card Systems, S.A. Memorandum in Support of Objections to the Magistrate Judge's Order Pursuant to Fed. R. Civ. P. 72(a) (Apr. 7, 2006) Original Image of this Document (PDF)

• [2006 WL 551391](#) (Trial Motion, Memorandum and Affidavit) Oberthur Card Systems, S.A.'s Reply Memorandum in Support of Motion for Summary Judgment of Patent Invalidity (Jan. 5, 2006) Original Image of this Document (PDF)

• [2005 WL 2647762](#) (Trial Pleading) Answer to Second Amended Complaint, Affirmative Defenses and Counterclaims (Nov. 10, 2005)

• [2005 WL 3280987](#) (Trial Pleading) Second Amended Complaint (Oct. 25, 2005)

• [2005 WL 3784592](#) (Trial Motion, Memorandum and Affidavit) Memorandum in Support of Motion for Summary Judgment of Patent Invalidity (Oct. 18, 2005) Original Image of this Document (PDF)

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• [2004 WL 3367787](#) (Trial Pleading) Answer and Counterclaims (Oct. 9, 2004)

• [2004 WL 3656772](#) (Trial Pleading) Complaint (May 30, 2004) Original Image of this Document (PDF)

• [2004 WL 12496](#) (Docket) (Mar. 30, 2004)

• [2004 WL 3567782](#) (Trial Motion, Memorandum and Affidavit) Oberthur Card Systems, S.A. Markman Brief (2004)

• [2004 WL 3567792](#) (Trial Motion, Memorandum

and Affidavit) Plaintiff's Brief in Opposition to Defendant's Markman Brief (2004) Original Image of this Document with Appendix (PDF)

• [2004 WL 3814972](#) (Trial Motion, Memorandum and Affidavit) Oberthur Card Systems, S.A.'s Reply Memorandum in Support of Motion for Summary Judgment of Objections to the Magistrate Judge's Order Pursuant to Fed. R. Civ. P. 72(a) (2004) Original Image of this Document (PDF)

END OF DOCUMENT

**EXHIBIT 27 IS BEING FILED UNDER SEAL  
PURSUANT TO THE PROTECTIVE ORDER  
ENTERED IN THIS CASE ON AUGUST 20, 2004  
BECAUSE IT CONTAINS CONFIDENTIAL INFORMATION  
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